Approved For Release 2003/12/11: CIA-RDP75B00285R000300080028-1

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	TOP SECRET  IDEA-0447-69 Copy_2 of 3	
	14 May 1969	
MEMORANDUM FOR: DIRECTO	OR OF SPECIAL ACTIVITIES	
SUBJECT :	Message 12 May 1969	2
viewed and the incident Life Support personnel a 2. Col. Shelton su	message, ATTACHMENT # 1, was re- was discussed at length with at Detachment G and with Col. Shelto uggested that the undersigned draft	n.
viewed and the incident Life Support personnel a 2. Col. Shelton su a message to should you decide that a such action. The message attached, ATTACHMENT # 2	was discussed at length with at Detachment G and with Col. Shelto	
viewed and the incident Life Support personnel a  2. Col. Shelton su a message to should you decide that a such action. The message attached, ATTACHMENT # 2 causes, analyses, conclu  3. It is the opini incident was very minor warrant widespread disse proof that the LOX used the incident. However, to be aware of a possible	was discussed at length with at Detachment G and with Col. Shelto uggested that the undersigned draft for your signature, the incident and analysis warrant ge drafted for your release is 2. It covers the incident, possible usions and actions taken.  ion of the undersigned that the in nature and in itself does not smination. Likewise there is no had any role in	2 2 2
viewed and the incident Life Support personnel a  2. Col. Shelton su a message to should you decide that a such action. The message attached, ATTACHMENT # 2 causes, analyses, conclu  3. It is the opini incident was very minor warrant widespread disse proof that the LOX used the incident. However, to be aware of a possible	was discussed at length with at Detachment G and with Col. Shelto aggested that the undersigned draft for your signature, the incident and analysis warrant ge drafted for your release is 2. It covers the incident, possible usions and actions taken.  ion of the undersigned that the in nature and in itself does not emination. Likewise there is no had any role in it may be desirable le slight contamination problem at	2 2 2

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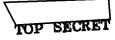
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2 - AMS/OSA
3 - RB/OSA



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		SECRET			
FILE INFO		(When Filled In)		! 2 Hay 89	20 25
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ACTION 1	Idea	6 D/M	11 . D		17
2	3 10	8	13		18
2011	AMS	9   NR	14		2Ø
S E C R E T 12 19	92 ØZ MAY 69 C	1 1/0			
					ug C MINI-
ON DETURN	IFG SCOPE SE	AINT II (FLIGH	T TIME 1	3 HOURS PL	.US 2 MIN-
23/(1	COMEDIATIN	ED OF MILD BUK	MINGS E	IED HID III	
UTES), PILOI	COMPLE	TO SET MAD SET M	TIAR CO	MPLAINTS O	F EYE PRO-
UTES), PILOI 9 PLUS HOURS FI	YING TIME. W	E HAVE HAD DIE		C ON PR	EVIOUS FLIGHTS
LEMS, WHICH WE	FEEL DUE TO	"DRYING OF THE	] EAFRAL	L5 , ON TH	<b></b>
OF LONG DURATI	ON		r		WE
2. AS A PRE	CAUTION, AND	SINCE THIS WAS	9	m FOR ANAL	VSIS TO
##	THENCE LOY	ON 053 AND SUB	MITTED 1	T FUR AUNI	= TOTO IT
SAMPLED THE REFOR	T RECEIVED S	HOWED LOX SLIG	HTLY OUT	OF SPECI	FICALIONS.
RESULTS AS FOL	.LOWS:		<b>5</b> ) T	CULTS SAMP	T.F.
REQUIREMENT		T.O. U2B6-			
		99.5 PERCE	INT MIN	99.04 PE	.R CE NI
PUR IT Y		50 PPM MA	Χ	61 PPM	
METHANE		10 PPM MA		3 PPM	
C <b>02</b>				Ø.3 PPM	
→ N2 O		2 PPM MA	Χ		
THE C		2 PPM MAX	•	Ø.1 PPM	

REFRIGERANTS

3. THE DIFFERENCES NOTED FOR USAF SPECIFICATIONS APPLIED TO SAMPLE

FORM 12<sup>1</sup>67 2820

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		SECRET (When Filled In)		
FILE INFO		RODUCTION PROHIBITED		
	REP		16	
ACTION	1 6	11	17	
ACTION	2	7 12	18	
25X1	3	14	19	
	4	9 15 15	2,0	
4. DEC.	SECRET EAR SIGNIFICANT. IN A HEN 053 WAS SERVICED SIONS AND MANNER OF E, IS BEING LEFT TO	PASSING THIS INFO	WAS MIXED WITH	
S E C R E	1			•
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D/8A/OSA

D/8A/OSA

D/M/OSA

Idea/O/OSA

AMS/OSA

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- 1. ON THE VERY SUCCESSFUL RETURN LEG OF SCOPE SAINT II,
  ONE MINOR PILOT COMPLAINT WAS MADE THAT I THOUGHT WOULD INTEREST
  YOU. THE PILOT COMPLAINED OF MILDLY BURNING EYES AND AN ODOR
  AFTER MINE (9) PLUS HOURS FLYING TIME (APPROX TEN (10) PLUS HOURS
  ON OXYGEN).
- CUMULATIVE ACTION, MAY HAVE PRODUCED THIS EYE IRRITATION AND ODOR. THIS PILOT IS KNOWN TO PERSPIRE HEAVILY AND THE PERSPIRATION OR ITS VAPOR COULD IRRITATE THE EYES AND THE WETTED MATERIALS IN THE HELMET COULD CAUSE THE ODOR. IN FACT A FAIR AMOUNT OF PERSPIRATION WAS COLLECTED FROM HIS HELMET AFTER LANDING. SECONDLY, BREATHING OXYGEN DOES TEND TO HAVE A DRYING EFFECT ON THE EYES AND MUCOUS MEMBRANES OF THE ORAL-MASAL PASSAGES, WHICH COULD INCREASE SENSITIVITY TO IRRITATION AND ODOR. FINALLY, TRACE

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#### PAGE TWO

CONTAMINANTS IN THE LIQUID OXYGEN COULD CAUSE THE EFFECTS NOTED,
PARTICULARLY IN COMBINATION WITH THE OTHER FACTORS NOTED.

3. THE LOX REMAINING IN THE AIRCRAFT UPON LANDING, WHICH WAS A MIXTURE OF WHAT WAS PREVIOUSLY IN THE CONVERTERS AND THAT ADDED WAS SAMPLED AND ANALYZED. THE

RESULTS WERE AS FOLLOWS:

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REQUIREMENT	SAMPLE RESULTS			
PURITY	99,04	PERCENT		
METHANE	61	PPM		
C02	3	PPM		
<b>N2</b> 0	0.3	PPM		
REFRIGERANTS	0.1	PPM		

4. THE ANALYSIS RESULTS ARE NOT SIGNIFICANT IN GENERAL.

THE SLIGHTLY ELEVATED LEVEL OF METHANE COULD CONTRIBUTE TO THE

EFFECTS NOTED ABOVE ONLY BECAUSE SOME SUBSTANCES, WHICH HAVE

ODORS THAT THE HUMAN CAN DETECT AT VERY, VERY LOW LEVELS, HAVE
AN AFFINITY FOR METHANE AND TEND TO ADHERE TO THIS GAS, THUS

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#### PAGE THREE

BEING CARRIED THRU THE OXYGEN SYSTEM TO THE PILOT. METHANE HAS VIRTUALLY UNLIMITED SOLUBILITY IN LOX AND THUS IS MOST LIKELY INTRODUCED DURING THE VARIOUS TRANSPER OPERATIONS, NOTABLY FROM LOX STORAGE TANK TO LOX SERVICING CART, AND FROM THE SERVICING CART TO THE AIRCRAFT.

S. BECAUSE WE ARE COLLECTIVELY EXPLORING THE UNIQUE AND NEW AREA OF EXCEPTIONALLY LONG AIRCRAFT FLIGHTS IN FULL PRESSURE SUITS, ALL ASPECTS OF PILOT COMFORT AND EFFICIENCY ARE OF GREAT INTEREST TO US AND I SEND YOU THIS IMPORMATION WITH RESPECT TO OUR COMMON INTERESTS. IN SUMMARY, WE FIND NO SPECIFIC CAUSE FOR THE EFFECTS NOTED, AND SUSPECT A COMBINATION OF CAUSES. OUR ACTION IS TO ASSURE OURSELVES THAT THE PILOTS ARE USING THE AIRCRAFT AIR-CONDITIONING/VENTILATION SYSTEM PROPERLY TO REDUCE PERSPIRATION TO INSURE THAT THE OXYGEN FLOW PATTERN IN THE HELMET DOES NOT ADD TO THE DRYING EFFECT ON THE EYES, AND TO INSURE THAT OUR LOX SERVICING PERSONNEL USE ALL KNOWN PROCEDURES

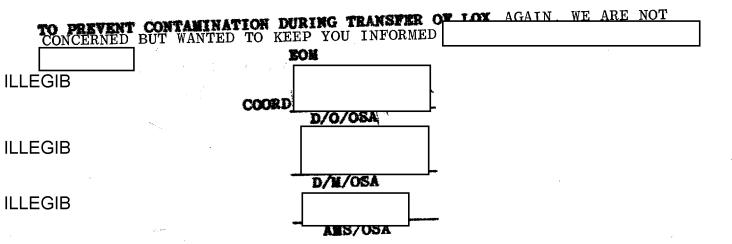
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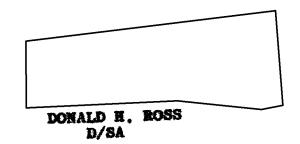
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# THIS DOCUMENT REQUIRES SPECIAL HANDLING

# HANDLING PROCEDURES

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